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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
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| 09/830,864 | 08/23/2001 | Goran Lundgren | LAGROTH-023 | 3544 |
| 530 | 7590 | 11/06/2003 | EXAMINER | |
| LERNER, DAVID, LITTENBERG, KRUMHOLZ & MENTLIK 600 SOUTH AVENUE WEST WESTFIELD, NJ 07090 | | | YAO, SAMCHUAN CUA | |
| | | | ART UNIT | PAPER NUMBER |
| | | | 1733 | |

DATE MAILED: 11/06/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/830,864

Applicant(s)

LUNDGREN ET AL.

Examiner

Sam Chuan C. Yao

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 22 September 2003.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 7-14 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 7-14 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____
- 4) ☐ Interview Summary (PTO-413) Paper No(s) _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

2. Claims 7, 10 and 12 are rejected under 35 U.S.C. 102(b) as being anticipated by Fischer et al (US 5,063,010).

Fischer et al discloses a process of making a fiberboard, the process comprises delivering a fibrous mat (i.e. understood to be a lignocellulose fiber mat) into a steam injection belt press, heating the mat by simultaneously injecting steam and hot air into the mat, applying suction pressure in the steam injection belt press to capture and move the injected steam and hot air along a conduit line (16"), wherein the temperature of the injected steam and hot air is between 100-140°C. Although not expressly disclosed, the mat in the belt press inherently generates/emits VOC gases during a heat-pressing operation, because volatility of a resin binder increases as the binder is subjected to a heating operation. It directly follows that, generated/emitted VOC gases are also inherently captured by the application of suction pressure. Although not expressly disclosed, in view of the similarity of the production processes, and in view that the temperature of hot air could be as high as around 140°C, while the claimed hot air temperature is only around greater than 100°C, a condensation of steam and generated/emitted VOC gases must substantially be prevented from condensing.

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Note: Where ... the claimed and prior art products are identical or substantially identical, or are produced by identical or substantially identical processes, the PTO can require an applicant to prove that the prior art products do not necessarily or inherently possess the characteristics of his claimed product.

Whether the rejection is based on "inherency" under 35 USC § 102, on prima facie obviousness" under 35 USC § 103, jointly or alternatively, the burden of proof is the same, and its fairness is evidenced by the PTO's inability to manufacture products or to obtain and compare prior art products." In re Best, 562 F2d 1252, 1255, 195 USPQ 430, 433-4 (CCPA 1977).

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 7, 10 and 12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Tilby (5,284,546) in view of (Tisch (US 5,433,905) or Eriksson et al (US 5,932,156)), Fischer et al (US 5,063,010), and Walsh (US 5,344,484).

Tilby discloses a process of making a lignocellulosic board, the process comprises feeding a mat, comprising binder impregnated fibers, into a belt press; compressing the mat in the belt press, blowing a stream of hot air into the mat to cure the binder; and moving and further heating the hot air stream in a conduit to a receiving end opening of the conduit using supplemental blowers and heaters (abstract; col. 6 line 63 to col. 7 line 17; claim 1). Tilby does not teach injecting a steam to preheat a mat in a belt press. However, it would have been obvious in the art to inject a steam to pre-heat a mat in a belt press taught by Tilby, because

it is a common practice in the art of making fiber-boards to steam pre-heat a mat in a belt press before the mat is press-cured as exemplified in the teachings of Tisch (col. 1 line 27 to col. 2 line 51) or Eriksson et al (col. 1 line 44 to col. 2 line 24 to col. 3 line 7; figures 4-6). Although not explicitly disclosed, a heat-pressed mat in a belt press intrinsically generates/emits gaseous material. It would appear that, the limitation "capturing said steam and gaseous emissions" reads on blowing a hot air stream in a conduit of a belt press to move the hot air (this naturally moves other gaseous materials) into a receiving end opening of the conduit. In any event, it would have been obvious in the art to apply a vacuum pressure to capture injected steam and a gaseous generated/emitted material, because it is a common practice in the art to apply a suction pressure in a belt press to remove steam and other gaseous material in a belt press as exemplified in the teachings of Tisch (abstract; col. 7 lines 1-13). It is worthnoting that, Fischer et al also teaches applying suction pressure in the steam injection belt press to capture and move the injected steam and hot air along a conduit line (16").

Although not presently recited in the claims, it would have been obvious in the art to use a heated air which has a temperature range of around 350-450°F (177-232°C), because conventional thermosetting binder resin (similar to the resin binder used in the process of Tilby (col. 5 lines 34-45)) requires a pressing temperature in temperature range of around 350-450°F as disclosed example by Walsh (col. 1 lines 26-34). It directly follows that, in view of the similarity of the

production processes, and in view that the temperature of hot air ranges from 177°C to 232°C, while the claimed hot air temperature to be only around greater than 100°C, a condensation of steam and generated/emitted gaseous material must substantially be prevented from condensing.

5. Claims 8-9 and 14 are rejected under 35 U.S.C. 103(a) as being unpatentable over the reference(s) set forth in numbered paragraph 2 or 4 as applied to claim 7 or 12 above, and further in view of Admitted Prior Art (APA) for reasons of record set forth in Paper No. 12 numbered paragraph 6.

6. Claims 11 and 13 are rejected under 35 U.S.C. 103(a) as being unpatentable over the reference(s) set forth in numbered paragraph 2 or 4 as applied to claim 7 or 12 above, and further in view of Puumalainen (US 5,815,943), Holik (US 5,387,782), Lehtinen (US 4,932,139) and Westelaken (US 4,424,634) for essentially the same reasons set forth in Paper No. 12 numbered paragraph 7.

7. Claims 11 and 13 are rejected under 35 U.S.C. 103(a) as being unpatentable over the reference(s) set forth in numbered paragraph 2 or 4 as applied to claim 7 or 12 above, and further in view of Pozzo et al (US 4,009,073), WO 98/50208 A1, and Westelaken (US 4,424,634). This is an alternative rejection to numbered paragraph 6.

It would have been obvious in the art to subject a resultant board condition a board by subjecting the board to an air having a predetermined moisture content at a predetermined temperature, because Pozzo et al teaches subjecting a particle board to an in-line humidification operation by exposing the board to humid air (i.e. 95% relative humidity) and at a temperature of around 200 °F to

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prevent the board from buckling or warping (col. 9 lines 20-41). Moreover, it would have been obvious in the art to perform an in-line humidification using a post-gas treatment similar to the method/apparatus taught by WO '208, where a *"gaseous treatment agent is contacted with at least one wall of the board and is caused to pass through the thickness of the board"* using a vacuum pressure, because WO '208 discloses subjecting at least one wall of a continuously moving board with a gas treatment agent such as a steam and causing the gas to pass through the thickness of the board by forming a vacuum pressure on the opposing wall of the board so as to shorten a post-gas treatment time, and also to recover *"obnoxious emissions such as VOC gases released by the board material and for passing them to further processing."*; wherein the gas treatment agent moisture content and temperature are controlled *"to achieve a desired effect on the material 1 being treated"* (abstract; page 1 lines 16-23, lines 32-37; page 2 lines 20-37; page 3 lines 1-37; col. 5 lines 24-37; claims 6-7 and 10). However, it would have been obvious in the art, motivated by a desire to conserve energy, to re-use a spent (i.e. heated) cooling air captured in a conditioning zone and re-use it as a heating medium in a hot-air heating zone in a belt press, such is conventional in the art. For instance, Westelaken teaches re-cycling heating/cooling air so that, *"air entering the heater section 40 is effectively pre-heated thereby requiring the addition of considerably less thermal energy to raise air to the desired or requisite drying temperature."* (emphasis added; col. 7 line 55 to col. 8 line 16). Moreover, it would have been obvious in

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the art to heat (using a heater) a captured spent (i.e. heated) cooling air prior to re-using it as a heating medium in hot-air heating zone in order to increase the temperature of the captured cooling air to a requisite temperature range of 350-450°F in order to cure the resin binder in a mat.

Response to Arguments

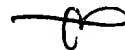
8. Applicant's arguments with respect to claim 7 or 12 has been considered but are moot in view of the new ground(s) of rejection.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Sam Chuan C. Yao whose telephone number is (703) 308-4788. The examiner can normally be reached on Monday-Friday with second Friday off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jeff H Aftergut can be reached on (703) 308-2069. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-2058.



Sam Chuan C. Yao
Primary Examiner
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